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WATER SUPPLY OUTLOOK FOR ARIZONA



U. S. DEPARTMENT of AGRICULTURE * SOIL CONSERVATION SERVICE

Collaborating with

SALT RIVER VALLEY WATER USERS ASSOCIATION and ARIZONA WATER COMMISSION

APR. 1, 1975

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Cover Photo: Cabins near Sacajawea Snow Course in Bridger Mountains, Montana.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P.O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 841 38
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

CNT of

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

WATER SUPPLY OUTLOOK FOR ARIZONA

and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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Spring runoff in Double Cabin Park near Happy Jack

ARIZONA SUMMARY

as of

APRIL 1, 1975

THE WATER SUPPLY OUTLOOK FOR ARIZONA IS GOOD, WITH PROSPECTS OF AVERAGE OR ABOVE RUNOFF EXPECTED.

HEAVY STORMS DURING MARCH HAVE INCREASED SNOW COVER SUBSTANTIALLY ABOVE AVERAGE FOR APRIL 1 ON ALL WATERSHEDS. STREAMFLOW FORE CASTS HAVE ALL BEEN RAISED WITH GREATEST INCREASES OCCURRING ON THE SALT AND LITTLE COLORADO RIVERS.

RESERVOIR STORAGE IS GENERALLY NEAR NORMAL IN MOST RESERVOIRS

SNOW COVER

Several moderate storms, accompanied by cold temperatures late in March, have resulted in a significant increase in snow cover. Melt occurred during the third week of the month, but two storms since have replaced most of what melted. Only the Gila Watershed showed a decline in snowpack since March 15. Snow cover now varies from 125 percent of average on the Gila Watershed to 172 percent of average on the Salt.

In the White Mountains there is 8 to 9 feet of snow at the 11,000-foot level. The 32-inch water content compares favorably with the 29" average, but it is a long way from the record 52 inches measured in 1973.

PRECIPITATION

Much above average precipitation occurred during March with most mountain stations reporting amounts of twice normal. Canyon Point on the "Rim" recorded 8.3" and several other widely scattered stations measured over 5 inches.

The March storms brought the total winter precipitation up to normal on most watersheds. The Verde as a whole is still 15 percent below average, although the high water-producing area near Mormon Lake is close to normal.

SOIL MOISTURE

The excellent soil moisture conditions will result in good water yields if moderate precipitation is received in the next few weeks.

RESERVOIR STORAGE

With significant increases in storage during March, all major reservoirs contain close to normal amounts of stored water. Except for Show Low Lake (which is spilling) all other reservoirs will easily contain the anticipated runoff.

STREAMFLOW AND WATER SUPPLY

Heavy March precipitation and melting snow resulted in good March runoff. The Salt, Verde and Tonto Rivers produced 207,000 acre-feet and the Gila at the head of Safford Valley produced 55,000 acre-feet. The April through May forecast of 268,000 acre-feet for the Salt River Project inflow is 30% above the 1958-72 15-year average. The 45,000 acre-feet forecast for the Gila is near average, although six times that received last year. A flow of over 100 cfs is expected to continue until June 1 on the Gila River.

Near normal or better water supplies are now expected throughout all of Arizona this year.

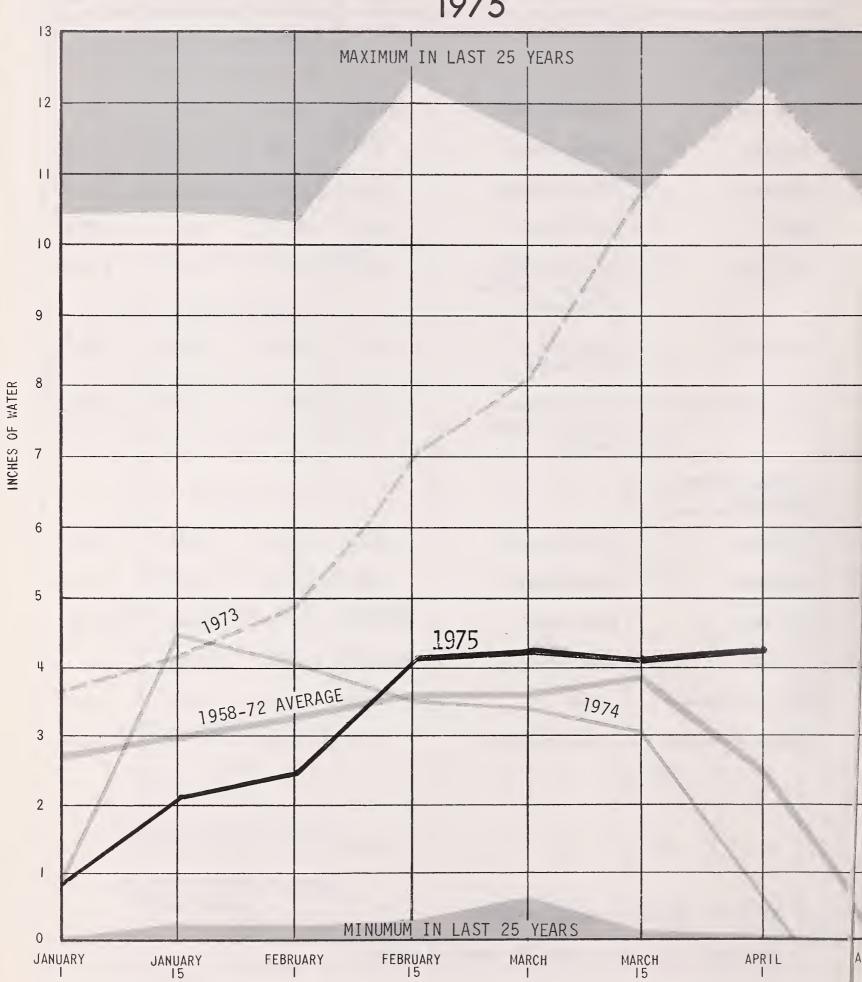
STREAMFLOW FORECASTS ABOUT APRIL 1, 1975		THIS YEA	PAST	RECORD	
		RECAST Percent of	FORECAST	THOUSAND	ACRE FEET
BASIN STREAM and/or FORECAST POINT	Thousand Acre Feet	Average	PERIOD	Last Year	Average
SALT RIVER DRAINAGE					
Salt near Roosevelt	200 140	140 141	Apr-May April	47.8 30.1	142.6 99.3
Tonto Creek near Roosevelt	8 6	95 86	Apr-May April	3.1 2.2	8.4 7.0
Verde River above Horseshoe	60 48	111 109	Apr-May April	23.9 13.6	54.0 43.9
Total Salt River Project	268 194	130 129	Apr-May April	74.8 45.9	205.0 150.2
GILA RIVER DRAINAGE					
Gila River at Calva	21	89	Apr-May	2.2	23.5
Gila River near Gila	22	110	Apr-May	5.9	20.0
Gila River near Solomon	45 33	102 103	Apr-May April	8.3 5.1	44.3 31.8
Gila River near Virden	23	101	Apr-May	4.4	22.8
Frisco River at Clifton	24	102	Apr-May	4.7	23.6
Frisco River at Glenwood	11	103	Apr-May	2.2	10.7
LITTLE COLORADO RIVER DRAINAGE					
Little Colo. River above Lyman Dam Greer <u>1</u> /	10 7	128 123	Apr-June Apr-June	.3	7.8 5.7
GRANITE CREEK DRAINAGE					
Granite Creek Willow Creek	.5		Apr-May Apr-May		
MIMBRES RIVER DRAINAGE Mimbres River near Mimbres	3.5	219	Apr-May	.4	1.6
COLORADO RIVER DRAINAGE Virgin River nr. Littlefield Colorado - Lake Powell Inflow	57 9469	132 138	Apr-June Apr-June	11.3	43.2 6881.0
The Gila at the head of Safford Valuntil June 1.	ley is e	expected	to remain	above 100	cfs
\dagger Based on the 15-year period, 1 $\underline{1}$ / Corrected for Filler Ditch Div	1				

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH

ABOUT APRIL 1, 1975

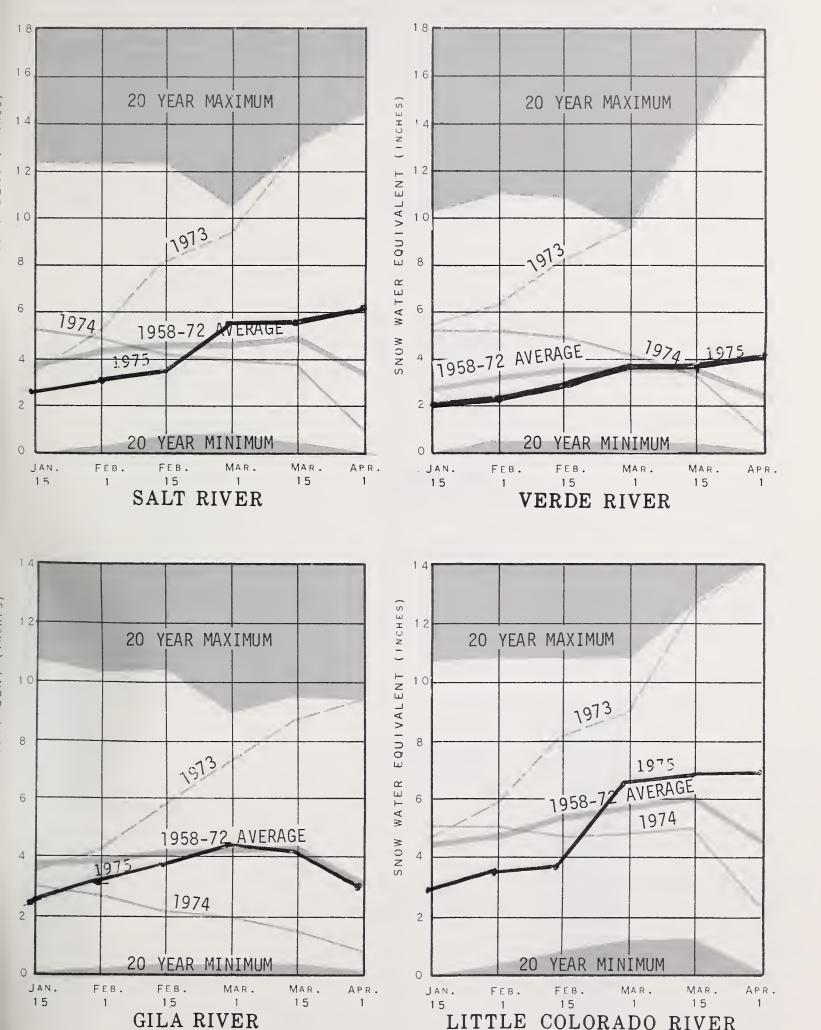
DAGIN STREAM	RESERVOIR	Nbl-			
BASIN or STREAM	RESERVOIR	Usable Capacity	This Year	Last Year	Average †
GILA RIVER DRAINAGE					
Agua Fria	Lake Pleasant	157.6	53.1	100.7	62.3
Granite	Watson Lake	4.7	1.8	1.7	3.5*
Granite	Willow Creek	6.1	0.9	3.0	3.0*
Gila	San Carlos	948.6	241.7	548.1	199.7
Salt (4)	Roosevelt, Apache, Canyon & Saguaro	1,755	1,158.7	1,665	1,145
Verde (2)	Bartlett & Horseshoe	317.7	80.0	277.1	158.2
Salt and Verde	6 Salt River Project Reser- voirs	2,073	1,238.7	1,942	1,303
COLORADO RIVER DRAINAGE					
Colorado	Lake Havasu	619.4	553.9	569.2	555.4
Colorado	Lake Mohave	1,810	1,602.8	1,638	1,675
Colorado	Lake Mead	26,159	19,776	19,482	16,927
Colorado	Lake Powell	25,002	17,294	17,935	
Little Colorado	Lyman	30.6	14.0	23.7	15.0
Little Colorado	Show Low Lake	5.1	5.1	1.1	2.4
-	r period, 1958-72				
* Average is for	less than 15 years o	record			

AVERAGE SNOW COVER ARIZONA 1975



This graph represents the average snow water content on eleven selected snow courses on Arizona Sub-Watersheds.

1975 WATERSHED SNOW COVER



SUMMARY OF SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS) ABOUT APRIL 1, 1975

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW W	ATER AS PERCENT OF:
	Averaged	Last Year	Average
Gila	10	486	125
Salt	10	501	172
Verde	10	502	160
Little Colorado	5	311	166
			+ 1958-1972 period

WATER SUPPLY INVENTORY SALT RIVER VALLEY SYSTEM

APRIL 1, 1975

3,000,000

AVERAGE SUPPLY ON APRIL 1

2,500,000

2,000,000

Average Spring Runoff

Average Summer

1,500,000

Forecast Runoff (April-May)

Average Summer Runoff

1,000,000

Average Storage

Runoff

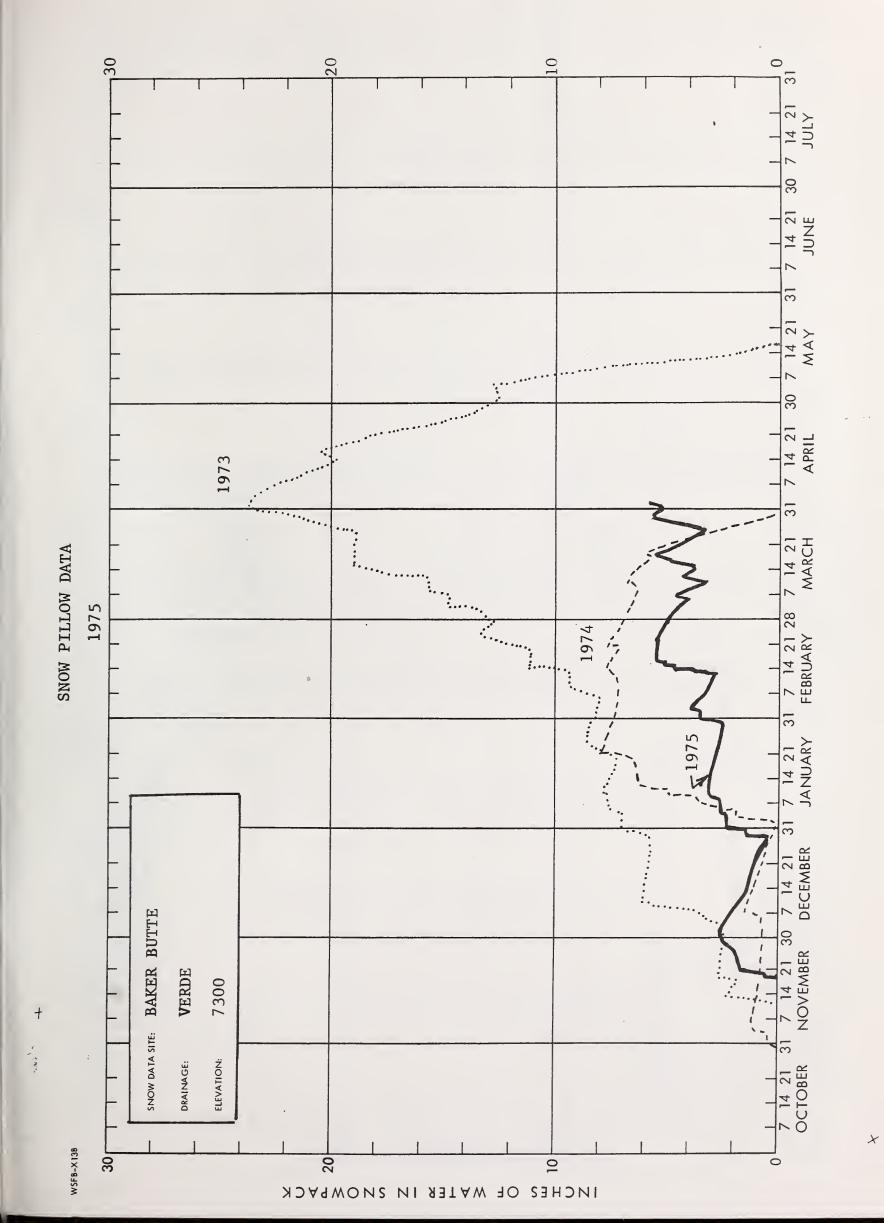
500,000

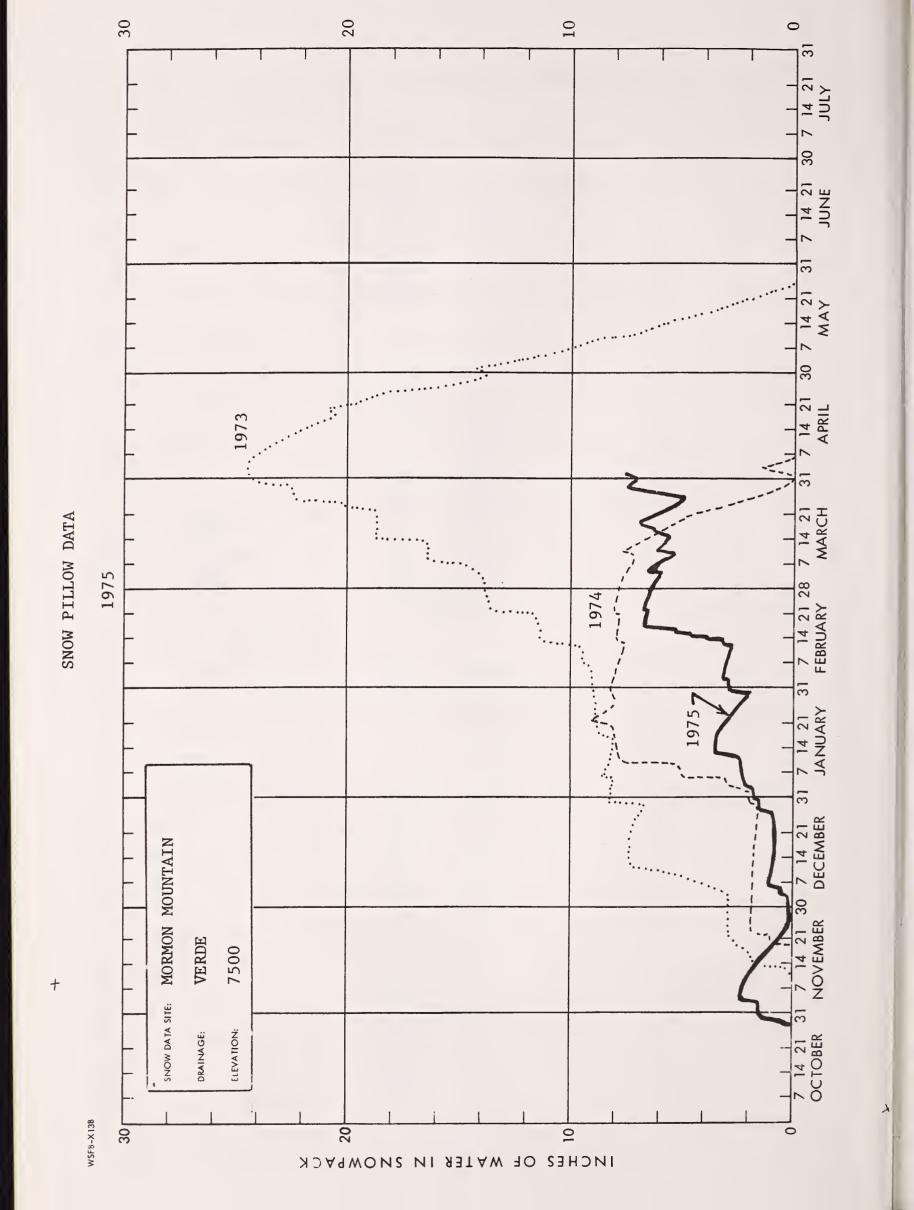
Present Storage

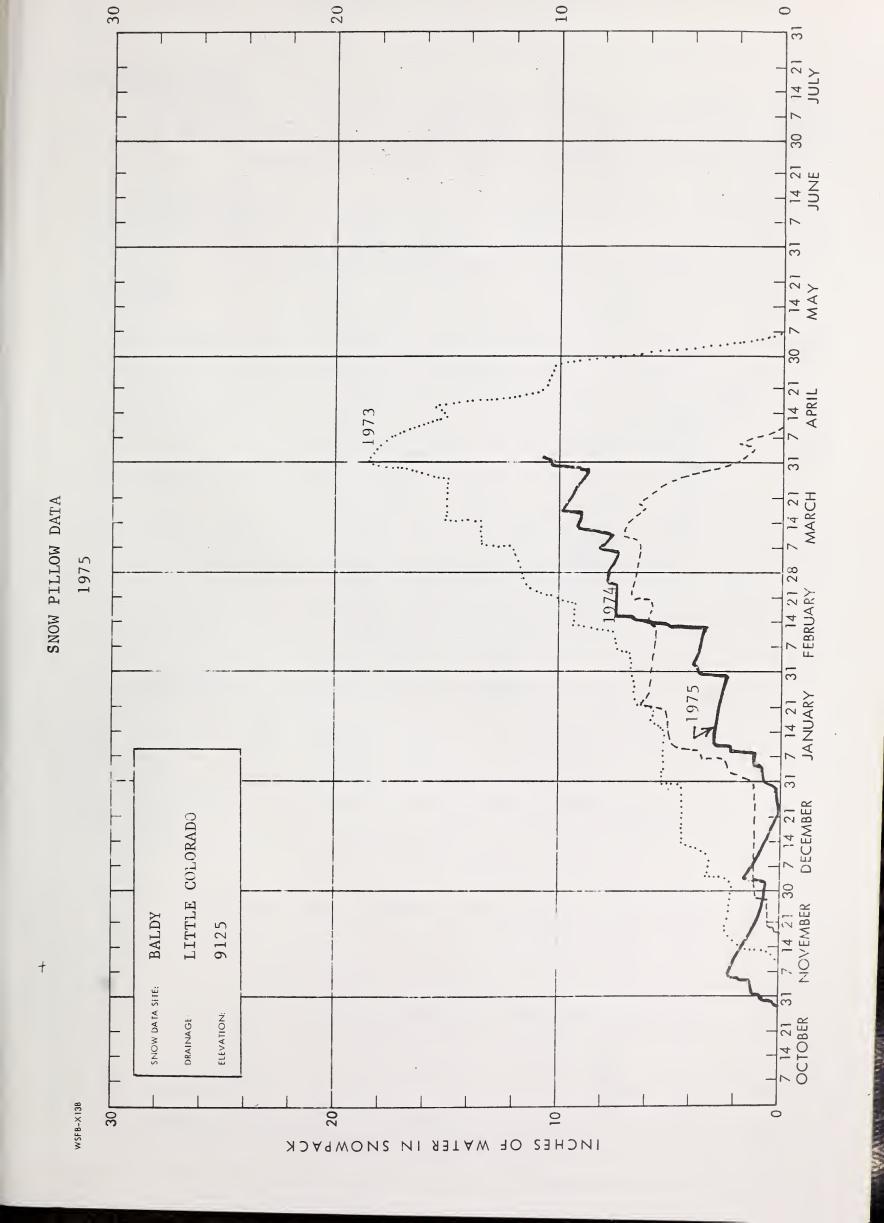


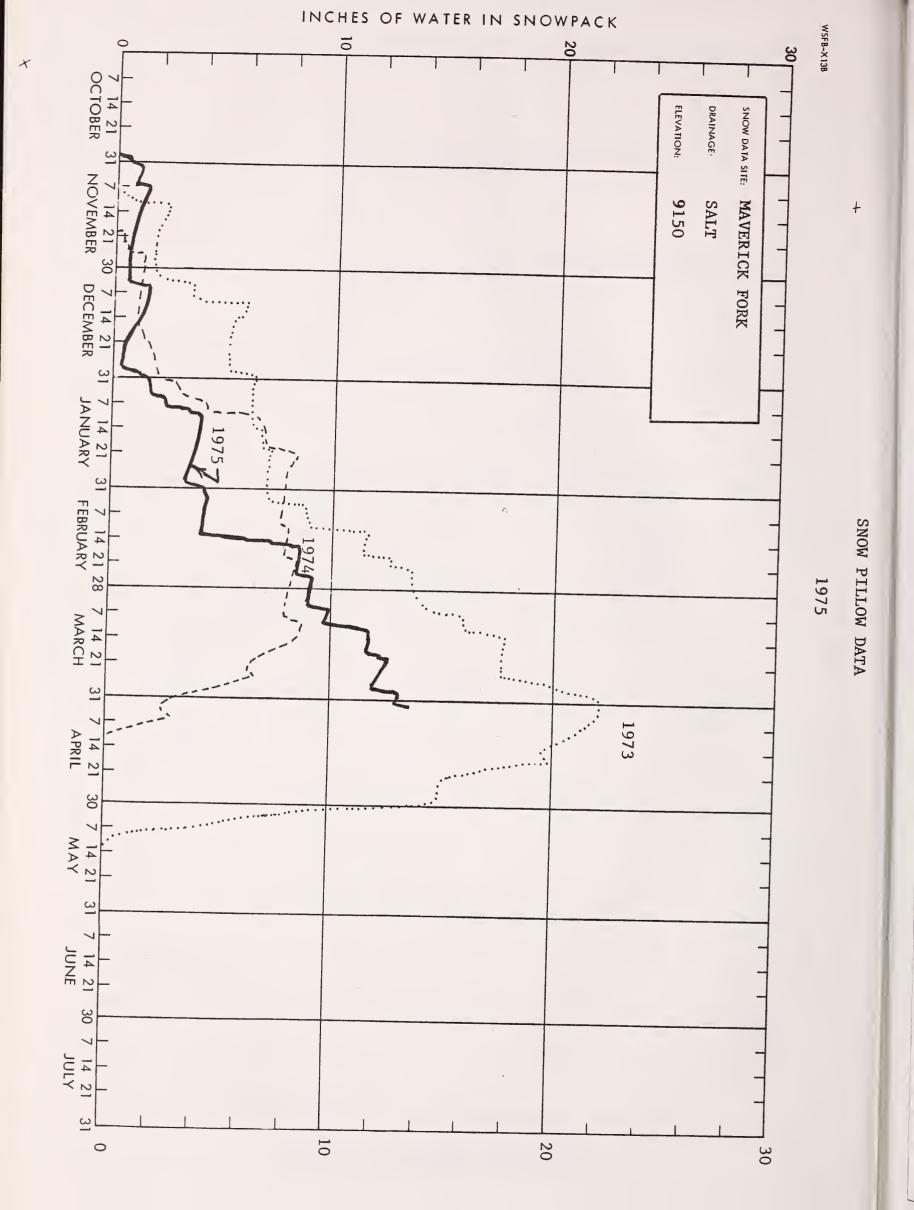
OW ABOUT APRIL 1, 1975	THIS YEAR PAST RECORD					
DRAINAGE BASIN and/or SNOW COURS		Date of Survey	Snow Depth (Inches)	Water Content (Inches)		ent (inches)
NAME	Elevation		1 ((Last Year	Average
GILA RIVER						
Bear Wallow	8100	3/31	7	2.4	0.0	2.9
Beaver Head	8000	3/31	5	1.5	0.0	1.7
Coronado Trail	8000	4/1	2	0.4	0.0	0.7
Emory Pass #1 *	7800	3/28	1	0.1	0.0	0.0*
Emory Pass #2 *	7800	3/28	1	0.1	0.0	0.0%
Frisco Divide	8000	3/31	4	0.9	0.0	0.6
Hannagan Meadows *	9090	3/31	32	11.3	4.4	8.0%
Hummingbird (A)	10550	4/4	59	21.8	6.9	15.1*
McKnight Cabin * (A)	9300	4/4	18	6.3	0.0	2.4*
Mogollon	7000	3/3	0	0.0	0.0	0.0
Nutrioso	8500	4/1	7	1.8	0.0	0.5
Redstone Trail	8600	3/31	26	8.4	0.7	7.0%
Rose Canyon	7300	3/31	5	1.4	0.0	0.5
Silver Creek Divide	9000	3/31	39	12.2	2.8	11.5
State Line	8000	3/31	2	0.3	0.0	0.6
Whitewater (A)	10750	4/4	96	27.8	14.2	20.2
ERDE RIVER						
Baker Butte	7300	3/31	14	5.2	0.0	3.6*
Baker Butte #2	7700	3/31	44	15.9	9.0	
Camp Wood	5700	3/31	0	0.0	0.0	0.1
Chalender *	7100	3/31	5	1.7	0.0	1.0
Copper Basin Divide	6720	3/31	1	0.2	0.0	0.0
Fort Valley	7350	3/31	0	0.0	0.0	1.1
Gaddes Canyon	7600	3/28	20	5.8	1.2	3.6
Happy Jack	7630	4/1	9	2.9	0.0	1.4
Iron Springs *	6200	3/31	T	0.0	0.0	0.1
Mingus Mountain	7100	3/28	5	0.7	0.0	0.1
Mormon Lake *	7350	3/31	9	3.5	0.0	1.7
Mormon Mountain	7500	3/31	20	7.2	0.0	3.0
Newman Park	6750	3/30	1	0.6	0.0	0.6
Snow Bowl #1	10260	4/1	49	15.0	$7.0\frac{1}{12.01}$	10.3*
Snow Bowl #2 White Horse Lake Jct.	11000 7150	4/1	74	20.8	13.01/	19.5%
White Spar	6000	4/1 3/31	7	2.3	0.0	0.0*
OWER COLORADO RIVER						
Bill Williams Int.	8550	4/1	37	10.5		6.3*
Bill Williams Summit	8950	4/1	54	14.4	10.51/	1
Bright Angel	8400				1.8	
Chalender *	7100	3/31	5	1.7	0.0	1.0
Fort Valley	7350	3/31	0	0.0	0.0	1.1
Grand Canyon	7500	3/31	5	1.6	0.0	0.6
Williams Ski Run	7720	4/1	38	10.8	5.0 <u>1</u> /	5.8*
1958-72 15-year period.						
verage. (A) Aerial obser	vation: wa	ter cont	ent esti	mated. 1	y estima	te.

ABOUT APRIL 1, 1975 DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR		PAST R		
NAME	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average †
SALT RIVER	10050		0.7			
Baldy #3	10950	4/1	97	31.8	24.6	25.3
Baldy *	9125	3/31	29	10.3	1.6	6.2
Beaver Head	8000	3/31	5	1.5	0.0	1.7
Canyon Creek	7500	4/1	16	4.4	0.0	1.3
Canyon Point	7600	4/1	17	4.2	0.0	1.2
Coronado Trail	8000	4/1	2	0.4	0.0	0.7
Forest Dale	6430	3/31	1	0.4	0.0	0.0
Ft. Apache	9160	3/31	31	10.4	3.1	6.3
Hannagan Meadows	9090	3/31	32	11.3	4.4	8.0
Hawley Lake	8300	3/31	25	8.8	0.0	3.6
Heber	7600	4/1	14	3.9	0.0	1.5
Maverick Fork	9050	3/31	37	12.8	3.0	7.5
McNary	7200	3/31	6	1.0	0.0	0.4
Milk Ranch	7000	3/31	2	0.6	0.0	0.1
Mt. Ord (A)	11000	4/1	105	32.5	25.0	26.4
Nutrioso *	8500	4/1	7		0.0	0.5
Smith Cienega (A)	9850	4/1	88	1.8 27.2	21.1	19.8
Sunrise Summit	10600	3/28				19.0
Wilson Lake	9000		73	19.7	16.0	0 0
Workman Creek	6900	3/28	47	13.8	7.3	9.0
Promontory Butte		3/26	15	2.8	0.0	2.8
Baldy #2	7930	4/1	47	16.5	10.0	
Daidy "Z	9750	4/1	73	23.5	18.6	16.9
LITTLE COLORADO RIVER						
Mormon Mtn. Summit #2	8400	3/31	49	16.7		
Baldy	9125	3/31	29	10.3	1.6	6.2
Canyon Creek	7500	4/1	16	4.4	0.0	1.3
Canyon Point	7600	4/1	17	4.2	0.0	1.2
Cheese Springs	8600	3/28	29	8.5	1.6	7.4
Forest Dale	6430	3/31	1	0.4	0.0	0.0
Ft. Apache	9160	3/31	31	10.4	3.1	6.3
Fort Valley	7350	3/31	0	0.0	0.0	1.1
Happy Jack *	7630	4/1	9	2.9	0.0	1.4
Heber	7600	4/1	14	3.9	0.0	1.5
Inner Basin #1	10100	4/3	66	20.4	11.9	17.3
Inner Basin #2	9750	4/3	42	12.5	6.0	10.2
McNary	7200	3/31	6	1.0	0.0	0.4
Mormon Lake	7350	3/31	9			
Mormon Mountain	7500	3/31	1	3.5	0.0	1.7
Nutrioso *	8500	4/1	20 7	7.2	0.0	3.0
Snow Bowl #1		4/1		1.8	0.0	0.5
	10260	4/1	49	15.0	$7.0\frac{1}{12.01}$	
Snow Bowl #2	11000		74	20.8	13.01/	
Wilson Lake	9000	3/28	47	13.8	7.3	9.09
Promontory Butte	7930	4/1	47	16.5	10.0	
Baldy #2	9750	4/1	73	23.5	18.6	16.9
Baldy #3	10950	4/1	97	31.8	24.6	25.3
Lake Mary	6970	3/31	T	0.0		
Mormon Mtn. Summit #1	8400	3/31	36	12.9		
† 1958-72 15-year period.					8-72 Adj	usted
Average. (A) Aerial obser					1/ estim	









PRECIPITATION (Inches) ABOUT APRIL 1, 1975 CURRENT INFORMATION FROM APPROX. NOV. I TO DATE DRAINAGE BASIN and ELEVATION Date of Month's Percent of Average T Average T PRECIPITATION GAGE LOCATION This Year Precipitation Average GILA RIVER Silver Creek Divide 9000 3/31 4.60 2.41* 14.23* 15.17 107 Hannagan Meadows ** 9030 3/31 3.90 2.21 12.80 11.80 92 Frisco Divide ** 8000 3/31 3.70 ___ 8.84 SALT RIVER Canyon Point 7600 4/1 8.30 3.67* 17.17* 17.79 104 Hannagan Meadows ** 9030 3/31 3.90 2.21 11.80 12.80 92 Little Wildcat (Heber Snow Course) 7600 4/1 2.96 14.46 7.03 14.92 103 Maverick Fork 9050 3/31 2.24 5.05 12.26 15.38 125 Workman Creek ** 6970 4/1 3.00 17.28 6.15 14.66 85 Wilson Lake 9100 3/28 2.50* 12.99* 4.45 12.86 99 VERDE RIVER Baker Butte 7300 3/31 3.37* 5.63 17.32* 15.04 87 Copper Basin Divide 6720 3/31 2.43* 4.05 9.14 11.52* 79 Fort Valley ** 7350 3/31 2.38 2.06 9.08 6.72 74 Happy Jack ** 7480 3/31 4.15 2.27 11.37 10.75 94 Mingus Mountain 7660 3/28 3.45 2.13 9.99 8.05 81 Mormon Mountain 7500 3/31 5.77 3.03* 16.17* 15.57 96 White Horse Lake Jct.** 7150 4/1 6.50 ___ 13.80 LITTLE COLORADO Inner Basin #1 9830 4/2 5.42 3.01 13.80 15.84 87 Inner Basin #2 10050 4/2 7.75 3.49* 19.75 18.16* 108 Greer Lakes 8500 3/31 2.10 1.15 7.13 6.70 94 Little Wildcat (Heber Snow Course) 7600 4/1 7.03 2.96 14.46 14.92 103 Sheep Crossing (Baldy Snow Course) 9125 3/31 2.23 11.90 4.92 13.75 116 1958-72 Average Adjusted Average Data Supplied by U.S. Forest Service



SOIL MOISTURE ABOUT APRIL 1, 1975

DRAINAGE BASIN and/or STATION			e (Inches)	Date of	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity	Survey	This Year	Last Year	Average
ILA RIVER							
Frisco Divide	8000	48	13.3	3/31	14.6	8.2	11.6
TITOCO DIVIGO							
ALT RIVER							
	0100	4.0	16.0			1.50	16.0
Black River Divide	9100	48	16.8	3/31	18.4	15.8	16.9
Canyon Creek	7500	48	18.3	4/1	18.6	17.9	16.1
Corduroy Creek	6000	36	13.5	3/31	14.9	9.0	10.4
MaNawa	7200	48	16.3	3/31	17.9	14.0	16.1
McNary	7200	40	10.5	3/31	17.9	14.0	10.1
ERDE RIVER	:						
						1.	
Mormon Mountain	7500	48	16.1	3/31	17.8	17.8	16.9
Newman Park	6750	48	17.7	3/30	19.3	18.7	19.4
						}	
				l			
└ 1958-72 15-year average							

Baker Butte #1 and #2

Baldy

Bear Wallow Beaver Head

Bill Williams Intermediate

Bill Williams Summit

Camp Wood Canyon Creek Canyon Point Chalender

Cheese Springs

Copper Basin Divide

Coronado Trail

Emory Pass #1 and #2

Forest Dale
Ft. Apache
Fort Valley
Frisco Divide
Gaddes Canyon
Grand Canyon
Hannagan Meadows

Happy Jack Hawley Lake

Heber

Hummingbird

Inner Basin #1 and #2

Iron Springs Lake Mary Maverick Fork McKnight Cabin

McNary Milk Ranch Mingus Mountain

Mogollon Mormon Lake Mormon Mountain

Mt. Ord Newman Park Nutrioso

Promontory Butte Redstone Trail Rose Canyon

Silver Creek Divide

Smith Cienega

Snow Bowl #1 and #2

State Line Sunrise Summit

White Horse Lake Junction

White Spar Whitewater

Williams Ski Run

Wilson Lake Workman Creek SCS - Dick Enz

SCS - Stanton, Raynor and Kyle Coronado N.F. - Eulberg and Harris

Apache-Sitgreaves N.F. - Chavez, Monday and Servis

Kaibab N.F. - Garcia Kaibab N.F. - Garcia

Prescott N.F. - K. Metzger

SCS - Dick Enz SCS - Dick Enz

Kaibab N.F. - William Welton SCS - Stanton, Raynor and Kyle

SCS - James Neveu

Apache-Sitgreaves N.F. - Daniel and Cordes

SCS - Garcia and Henry

Bureau of Indian Affairs - Endfield and Grippen

SCS - Stanton, Raynor and Kyle

Rocky Mountain Forest & Range Experiment Station

Apache-Sitgreaves N.F. - R. L. Allred

Earl Barto

National Park Service - Swift and Briggs

Apache-Sitgreaves N.F. - Chavez, Monday and Servis

Coconino N.F. - Harris and Van Driel

Bureau of Indian Affairs - Endfield and Grippen

SCS - Dick Enz Ray Freeman

SCS (Jorgensen) and City of Flagstaff (Benjamin)

SCS - James Neveu

SCS - Jorgensen and Quimby SCS - Stanton, Raynor and Kyle

Ray Freeman

Bureau of Indian Affairs - Endfield and Grippen Bureau of Indian Affairs - Endfield and Grippen

Earl Barto James Lyon

SCS - Jorgensen and Quimby SCS - Jorgensen and Quimby Salt River Project and USGS SCS - Jorgensen and Quimby

Apache-Sitgreaves N.F. - Daniel and Cordes

SCS - Dick Enz James Lyon

Coronado N.F. - Eulberg and Harris

James Lyon

Salt River Project and USGS Coconino N.F. - Jim Bedlion

Apache-Sitgreaves N.F. - R. L. Allred

SCS - Aubrey Stanton Kaibab N.F. - Garcia SCS - James Neveu

Ray Freeman

Kaibab N.F. - Garcia

SCS - Stanton, Raynor and Kyle

Rocky Mountain Forest and Range Experiment Station

INDEX to SNOW COURSES and SOIL MOISTURE STATIONS

11.	DEA to SINOW		Kolo	anu	JOIL	MOISTOR		10113
NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.	DRAINAGE	OBSERVER	RECORD BEGAN
11P10A	Agassiz	32	23N	7E	11200	Little Colorado	SCS-C.F.*	1968
11R7 11R6PSP 9S1APSP 9S15 9S16 10T1 9S6 12P5 12P4 9S10 m 12N1	Baker Butte #2 Baker Butte Baldy Baldy #2 Baldy #3 Bear Wallow Beaver Head Bill Williams Intermediate Bill Williams Summit Black River Divide Bright Angel	9 4 28 12 13 6 13 17 17 10 34	12N 12N 7N 6N 6N 12S 4N 21N 21N 6N 33N	9E 9E 27E 26E 26E 16E 30E 2E 2E 27E 3E	7700 7300 9125 9750 10950 8100 8000 8550 8950 9400 8400	Verde Verde Little Colorado Little Colorado Little Colorado Gila San Francisco Cataract Verde Salt Bright Angel Creek	SCS SCS SCS SCS FS FS FS FS FS SCS NPS	1971 1966 1950 1963 1963 1948 1938 1967 1967 1954
12R1 10R7M 10R9P 12P1M 9R7 12R6P 10R8m 9S7 9T2A	Camp Wood Canyon Creek #2 Canyon Point Chalender Cheese Springs Copper Basin Divide Corduroy Creek Coronado Trail Crazy Horse	3 18 28 27 28 23 4 26 34	16N 11N 11N 22N 8N 13N 8N 5N 8S	6W 15E 14E 3E 27E 3W 21E 30E 24E	5700 7500 7600 7100 8600 6720 6000 8000 10200	Verde Little Colorado Salt Verde Little Colorado Verde Salt San Francisco Gila	FS SCS SCS FS SCS SCS SCS FS	1946 1958 1967 1947 1969 1963 1954 1938 1963
11P11a	Doyle Saddle	4	22N	7E	10900	Little Colorado	SCS	1968
7T1	Emory Pass #1	16	16S	9W**	7800	Mimbres	SCS	1967
7T2	Emory Pass #2	16	16S	9W**	7800	Mimbres	SCS	1967
10R6	Forest Dale	2	9N	21E	6430	Salt	BIA	1939
9R5	Ft. Apache	18	7N	27E	9160	Little Colorado	SCS	1951
11P2P	Ft. Valley	22	22N	6E	7350	Little Colorado	FS	1947
8S1MP	Frisco Divide	31	6S	20W**	8000	San Francisco	FS	1938
12R4	Gaddes Canyon	11	15N	2E	7600	Verde	SCS	1954
11P1	Grand Canyon	21	30N	4E	7500	Hance Creek	NPS	1947
9S11P	Hannagan Meadows	19	3N	29E	9090	San Francisco	FS	1964
11R5P	Happy Jack	30	16N	9E	7630	Verde	FS	1951
9R10	Hawley Lake	13	7N	24E	8300	Salt	BIA	1966
10R4PSP	Heber	28	11N	15E	7600	Little Colorado	SCS	1950
9T1A	High Peak	34	8S	24E	10500	Gila	FS	1963
8S9A	Hummingbird	19	11S	17W**	10550	Gila	SCS	1964
11P9P	Inner Basin #1	28	23N	7E	10000	Little Colorado	C.F.*	1967
11P8P	Inner Basin #2	28	23N	7E	9750	Little Colorado	C.F.*	1967
12R2	Iron Springs	22	14N	3W	6200	Bill Williams	SCS	1946
9S2APSP 7S3A 9R2M 9R1 12R3 8S2 11R4 11R3MAPSP 9S12A	Maverick Fork McKnight Cabin McNary Milk Ranch Mingus Mountain Mogollon Mormon Lake Mormon Mountain Mt. Ord	13 10 23 33 3 2 13 14 4	6N 15S 8N 8N 15N 11S 18N 18N 6N	27E 10W** 23E 23E 2E 19W** 8E 8E 26E	9150 9300 7200 7000 7100 7000 7350 7500 11200	Salt Mimbres Salt Salt Verde San Francisco Little Colorado Verde Salt	SCS SCS BIA BIA SCS SCS SCS SCS SCS	1950 1967 1939 1941 1947 1953 1947 1950 1966
11P5M	Newman Park	25	19N	6E	6750	Verde	SCS	1963
9S4	Nutrioso	23	6N	30E	8500	San Francisco	FS	1938
11R10	Promontory Butte	5	11N	13E	7930	Little Colorado	SCS	1973
8S7	Redstone Trail	5	11S	18W**	8600	San Francisco	SCS	1961
10T2	Rose Canyon	15	12S	16E	7300	Gila	FS	1948
8S8P	Silver Creek Divide	4	11S	18W**	9000	San Francisco	SCS	1964
9S14A	Smith Cienega	10	6N	26E	10050	Salt	SRP-SCS	1966
11P4	Snow Bowl #1	36	23N	6E	10260	Verde	FS	1961
11P6	Snow Bowl #2	31	23N	7E	11000	Verde	FS	1965
9S8	State Line	6	6S	21W**	8000	San Francisco	FS	1938
9S17	Sunrise Summit	36	7N	26E	10600	Salt	SCS	1972
12P2P	White Horse Lake Jct.	2	20N	2E	7180	Verde	FS	1967
12R5	White Spar	19	13N	2W	6000	Verde	SCS	1963
8S10A	Whitewater	19	11S	17W**	10750	Gila	SCS	1964
12P3	Williams Ski Run	9	21N	2E	7720	Cataract	FS	1967
9R6P	Wilson Lake	4	7N	26E	9000	Salt	SCS	1966
10S1P	Workman Creek	33	6N	14E	6900	Salt	FS	1952

A Aerial Snow Depth Marker

M Soil Moisture Station

P Precipitation Storage Gage

^{**} NM Principal Meridian

a Aerial Snow Depth Marker Only

m Soil Moisture Station Only SP Snow Pressure Pillow.

^{*} City of Flagstaff

The Following Organizations Cooperate in the Arizona Snow Survey Work

FEDERAL

Department of Agriculture Soil Conservation Service Forest Service Apache Forest Coconino Forest Coronado Forest Gila Forest Kaibab Forest Prescott Forest Rocky Mountain Forest and Range Experiment Station Tonto Forest Department of Commerce NOAA, National Weather Service Department of Interior Bureau of Reclamation Region 111 Geological Survey Arizona District New Mexico District Bureau of Indian Affairs Fort Apache Reservation San Carlos Irrigation Project National Park Service Grand Canyon National Park Gila Water Commissioner

STATE

Arizona Game and Fish Department
Arizona State Parks Board
Arizona Water Commission
University of Arizona
Arizona Agricultural Experiment Station
Water Resource Research Center
Department of Watershed Management

Safford, Arizona

MUNICIPAL

City of Flagstaff

IRRIGATION PROJECTS

Salt River Valley Water User's Association Phoenix, Arizona San Carlos Irrigation and Drainage District Coolidge, Arizona Maricopa County Municipal Water Conservation District

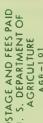
PRIVATE

Southwest Forest Industries, Inc.
McNary, Arizona
Fort Apache Indian Reservation
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"The Conservation of Water begins with the Snow Survey"

3